

## REMARKS

Favorable consideration of this application is respectfully requested.

Claims 11, 13, 14, and 16-30 are currently active in this case. Claims 10, 12 and 15 have been canceled; Claims 11, 13, 14, and 16 have been amended; and Claims 17-30 have been added by way of the present amendment. Each amended and added claim is supported by the specification and claims as originally submitted and no new matter has been added.

In the outstanding Official Action, Claims 10, 12, 14 and 15 were rejected as being unpatentable under 35 U.S.C. §103(a) over *Joo Han Nam* (UK Pat No. 2,263,467A, hereinafter *Nam*).

Applicant appreciatively acknowledges the identification of allowable subject matter in claims 11, 13 and 16 have been amended to be in independent form including its base claim limitations. Claim 14 has been amended to include subject matter relating to the second alarm. Therefore, each of Claims 11, 13, 14, and 16 include subject matter already identified as being allowable. Accordingly, Applicant respectfully submits that Claims 11, 13, 14, and 16 are patentable.

New independent Claims 21, recites:

***21. A video printer, comprising:  
a detection portion disposed on a paper spool around  
which a printing paper is wound; and  
a rotation detection device configured to detect rotation  
of the paper spool based on periodic detection of said detection  
portion;  
wherein said detection portion is a bar code and said  
rotation detection device is an optical sensor configured to read  
the bar code.***

New independent Claim 25 recites:

***25. A video printer comprising:  
a spool spindle comprising at least one roll presser  
configured to engage a spool; and  
a detection sensor configured to detect a detection  
portion on an interior portion of the spool.***

However, *Nam* fails to teach or suggest similar subject matter. For example *Nam* fails to teach or suggest, as in claim 21, wherein "said detection portion is a bar code," and, as in Claim 25, "a detection portion on an interior portion of the spool." Accordingly applicant respectfully submits that new Claims 21 and 25 are patentable over *Nam*.

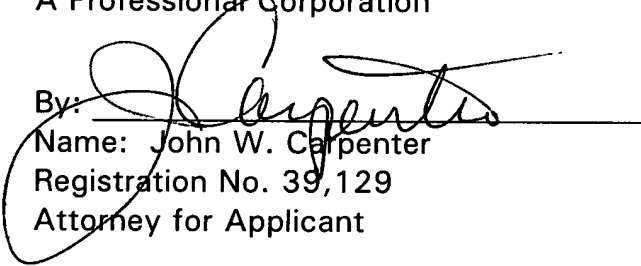
Based on the patentability of independent Claims 11, 21, and 25, Applicant further respectfully submits that dependent Claims 17-20, 22-24, and 26-30 are also patentable.

Consequently, no further issues are believed to be outstanding, and it is respectfully submitted that this case is in condition for allowance. An early and favorable action is respectfully requested.

Respectfully submitted,

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**App ndix 1**  
**Version with Markings to Show Changes Made**

**In the Claims**

**Claims 10, 12, and 15 have been cancelled.**

**Claims 11, 13, 14, and 16 have been amended as follows:**

11. (Amended) A video printer [as claimed in claim 10] comprising,  
a detection portion disposed in a paper spool around which a printing  
paper is wound and detecting a rotation of said paper spool;

rotation detection means for detecting a rotation of said paper spool  
by said detection portion; and

control means for determining based on said paper spool rotation  
detected by said rotation detection means whether or not a remaining  
quantity of said roll-like printing paper wound around said paper spool  
approaches to its end and controls display means such that said display  
means displays a first alarm if it is determined that the quantity of said roll-  
like printing paper approaches to its end;

wherein said detection portion is disposed on one side of said paper  
spool and said control means controls said display means such that said  
display means displays a second alarm if a rotation of said paper spool is not  
detected by said rotation detection means.

13. (Amended) A video printer [as claimed in claim 12] comprising,  
a roll-like printing paper including a detection portion for detecting a  
rotation of a paper spool provided on said paper spool to which a printing  
paper is wound in a roll-like fashion and printing paper roll pressers for  
rotatably supporting said paper spool;

rotation detection means for detecting a rotation of said paper spool by said detection portion; and

control means for determining based on said paper spool rotation detected by said rotation detection means whether or not a remaining quantity of said roll-like printing paper approaches to its end and displaying a first alarm on display means if it is determined that the remaining quantity of said roll-like printing paper approaches to its end;

wherein said detection portion is formed on one side of said paper spool and said control means displays a second alarm on said display means if said rotation detection means does not detect the rotation of said paper spool.

14. (Amended) A video printer comprising:

a roll-like printing paper including a detection portion for detecting a rotation of a paper spool provided on said paper spool to which a printing paper is wound in a roll-like fashion, printing paper roll pressers for rotatably supporting said paper spool and rotation detection means for detecting a rotation of said paper spool by said detection portion; and

control means for,

determining based on said paper spool rotation detected by said rotation detection means whether or not a remaining quantity of said roll-like printing paper wound around said paper spool approaches to its end and displaying an alarm on display means if it is determined that the remaining quantity of said roll-like printing paper approaches to its end, and

determining if said roll-like printing paper is rotating during printer operation based on said rotation detection means and displaying a second alarm on the display means if it is determined that said roll-like printing paper is not rotating during printer operation.

16. (Amended) A method of detecting a remaining quantity of a printing paper [as claimed in claim 15] comprising the steps of,  
detecting a rotation of a paper spool around which a printing paper is wound;  
determining based on said detected paper spool rotation whether or not a remaining quantity of said roll-like printing paper wound around said paper spool approaches to its end; and  
displaying a first alarm by display means if it is determined that the remaining quantity of said roll-like printing paper approaches to its end;  
wherein the rotation of said paper spool around which said printing paper is wound in a roll-like fashion is detected and a second alarm is displayed by display means if said paper spool rotation is not detected.

**Claims 17-30 have been added as follows:**

17. (New) The video printer according to Claim 11, wherein said detection portion comprises a bar code and said rotation detection means comprises an optical sensor.

18. (New) The video printer according to Claim 17, wherein said one side is an inside of said paper spool.

19. (New) The video printer according to Claim 11, wherein said detection portion comprises a bar code printed on said paper spool.

20. (New) The video printer according to Claim 11, wherein said detection portion comprises a bar code sticker affixed to said printer spool.

21. (New) A video printer, comprising:

a detection portion disposed on a paper spool around which a printing paper is wound; and

a rotation detection device configured to detect rotation of the paper spool based on periodic detection of said detection portion;

wherein said detection portion is a bar code and said rotation detection device is an optical sensor configured to read the bar code.

22. (New) The video printer according to Claim 21, wherein the bar code contains discriminating information about printing paper disposed on the paper spool.

23. (New) The video printer according to Claim 21, further comprising:

a control device configured to calculate an amount of remaining printer paper on the paper spool based on at least the detected rotations; and

a low paper alarm mechanism activated by the control device if the amount of remaining printer paper is low.

24. (New) The video printer according to Claim 21, further comprising:

a rotation alarm device activated by the processing device if said rotation detection device does not detect any rotations.

25. (New) A video printer comprising:

a spool spindle comprising at least one roll presser configured to engage a spool; and

a detection sensor configured to detect a detection portion on an interior portion of the spool.

26. (New) The video printer according to Claim 25, wherein:  
said spool spindle further comprising a thru-hole that is aligned with  
an optional path of said detection sensor during at least a portion of a  
rotation of said spool spindle.

27. (New) The video printer according to Claim 26, wherein:  
said detection portion is a barcode; and  
said detection sensor is a bar code scanner.

28. (New) The video printer according to Claim 27, wherein:  
said spool is a paper spool; and  
said video printer further comprises a control device coupled to the  
bar code scanner and configured to process discriminating printer paper data  
read by the bar code scanner.

29. (New) The video printer according to Claim 27, further  
comprising a rotation alarm activated by the control device if no rotation is  
detected by said detection sensor during printing operations.

30. (New) The video printer according to Claim 29, wherein:  
said control device is further configured to calculate an amount of  
printable material on the spool based on rotations detected by the bar code  
scanner; and

said video printer further comprising a low material alarm activated by  
the control means if the amount of printable material on the spool is low.



## **Appendix 2**

### **Pending Claims**

11. A video printer comprising,  
a detection portion disposed in a paper spool around which a printing paper is wound and detecting a rotation of said paper spool;

rotation detection means for detecting a rotation of said paper spool by said detection portion; and

control means for determining based on said paper spool rotation detected by said rotation detection means whether or not a remaining quantity of said roll-like printing paper wound around said paper spool approaches to its end and controls display means such that said display means displays a first alarm if it is determined that the quantity of said roll-like printing paper approaches to its end;

wherein said detection portion is disposed on one side of said paper spool and said control means controls said display means such that said display means displays a second alarm if a rotation of said paper spool is not detected by said rotation detection means.

13. A video printer comprising,  
a roll-like printing paper including a detection portion for detecting a rotation of a paper spool provided on said paper spool to which a printing paper is wound in a roll-like fashion and printing paper roll pressers for rotatably supporting said paper spool;

rotation detection means for detecting a rotation of said paper spool by said detection portion; and

control means for determining based on said paper spool rotation detected by said rotation detection means whether or not a remaining quantity of said roll-like printing paper approaches to its end and displaying a

first alarm on display means if it is determined that the remaining quantity of said roll-like printing paper approaches to its end;

wherein said detection portion is formed on one side of said paper spool and said control means displays a second alarm on said display means if said rotation detection means does not detect the rotation of said paper spool.

14. A video printer comprising:

a roll-like printing paper including a detection portion for detecting a rotation of a paper spool provided on said paper spool to which a printing paper is wound in a roll-like fashion, printing paper roll pressers for rotatably supporting said paper spool and rotation detection means for detecting a rotation of said paper spool by said detection portion; and

control means for,

determining based on said paper spool rotation detected by said rotation detection means whether or not a remaining quantity of said roll-like printing paper wound around said paper spool approaches to its end and displaying an alarm on display means if it is determined that the remaining quantity of said roll-like printing paper approaches to its end, and

determining if said roll-like printing paper is rotating during printer operation based on said rotation detection means and displaying a second alarm on the display means if it is determined that said roll-like printing paper is not rotating during printer operation.

16. A method of detecting a remaining quantity of a printing paper comprising the steps of,

detecting a rotation of a paper spool around which a printing paper is wound;

determining based on said detected paper spool rotation whether or not a remaining quantity of said roll-like printing paper wound around said paper spool approaches to its end; and

displaying a first alarm by display means if it is determined that the remaining quantity of said roll-like printing paper approaches to its end;

wherein the rotation of said paper spool around which said printing paper is wound in a roll-like fashion is detected and a second alarm is displayed by display means if said paper spool rotation is not detected.

17. The video printer according to Claim 11, wherein said detection portion comprises a bar code and said rotation detection means comprises an optical sensor.

18. The video printer according to Claim 17, wherein said one side is an inside of said paper spool.

19. The video printer according to Claim 11, wherein said detection portion comprises a bar code printed on said paper spool.

20. The video printer according to Claim 11, wherein said detection portion comprises a bar code sticker affixed to said printer spool.

21. A video printer, comprising:

a detection portion disposed on a paper spool around which a printing paper is wound; and

a rotation detection device configured to detect rotation of the paper spool based on periodic detection of said detection portion;

wherein said detection portion is a bar code and said rotation detection device is an optical sensor configured to read the bar code.

22. The video printer according to Claim 21, wherein the bar code contains discriminating information about printing paper disposed on the paper spool.

23. The video printer according to Claim 21, further comprising:

a control device configured to calculate an amount of remaining printer paper on the paper spool based on at least the detected rotations; and

a low paper alarm mechanism activated by the control device if the amount of remaining printer paper is low.

24. The video printer according to Claim 21, further comprising:

a rotation alarm device activated by the processing device if said rotation detection device does not detect any rotations.

25. A video printer comprising:

a spool spindle comprising at least one roll presser configured to engage a spool; and

a detection sensor configured to detect a detection portion on an interior portion of the spool.

26. The video printer according to Claim 25, wherein:

said spool spindle further comprising a thru-hole that is aligned with an optical path of said detection sensor during at least a portion of a rotation of said spool spindle.

27. The video printer according to Claim 26, wherein:

said detection portion is a barcode; and

said detection sensor is a bar code scanner.

28. The video printer according to Claim 27, wherein:  
said spool is a paper spool; and  
said video printer further comprises a control device coupled to the bar code scanner and configured to process discriminating printer paper data read by the bar code scanner.

29. The video printer according to Claim 27, further comprising a rotation alarm activated by the control device if no rotation is detected by said detection sensor during printing operations.

30. The video printer according to Claim 29, wherein:  
said control device is further configured to calculate an amount of printable material on the spool based on rotations detected by the bar code scanner; and

said video printer further comprising a low material alarm activated by the control means if the amount of printable material on the spool is low.